

**PRELIMINARY**

**Estimated EDE at HVOL H1 (In-plume, within 100 feet of burn plot perimeter)**

Isotope	Air Concentration <sup>(5)</sup> µCi/m³	Radiation Intake <sup>(6)</sup> µCi	Inhalation Dose Conversion Factor <sup>(7)</sup> mrem/µCi	Radiation Dose by Isotope <sup>(8)</sup> mrem	Total Dose mrem
U235	5.37E-10	7.34E-10	1.23E+05	9.03E-05	
Pu239	7.89E-10	1.08E-09	4.29E+05	4.63E-04	0.0007
Am241	2.40E-10	3.28E-10	4.44E+05	1.46E-04	
<sup>(9)</sup> U235	2.16E-09	2.95E-09	1.23E+05	3.63E-04	
<sup>(9)</sup> Pu239	1.98E-09	2.70E-09	4.29E+05	1.16E-03	0.0029
<sup>(9)</sup> Am241	2.20E-09	3.00E-09	4.44E+05	1.33E-03	

<sup>(5)</sup>Air Concentration = (Sample Concentration in pCi/m³)\*(1E-06 µCi/pCi)

<sup>(6)</sup>Radiation Intake = ((Air Concentration)\*(Exposure Duration)\*(Inhalation Rate))/(60 min/hr)

<sup>(7)</sup>From EPA's Federal Guidance Report #11 for dose assessment

<sup>(8)</sup>Radiation Dose = (Annual Intake)\*(Inhalation Dose Conversion Factor)

<sup>(9)</sup>Dose assessment using MDA as the actual activity

**PRELIMINARY**

**Dose Assessment to Public Receptors Using ISC Model**

**and Reported Concentrations**

Location	ISC Scaling Factor	Dose from Pu239 mrem	Dose from Am241 mrem	Dose from U235 mrem	Total Dose mrem
HVOL H1	1	4.63E-04	1.46E-04	9.03E-05	7.0E-04
Intersection - West Access Road & Hwy 93	0.22	1.02E-04	3.21E-05	1.99E-05	1.5E-04
Rocky Flats Lounge	0.0038	1.76E-06	5.55E-07	3.43E-07	2.7E-06
Hwy 93 Sawmill	0.0001	4.63E-08	1.46E-08	9.03E-09	7.0E-08

**Comparative Dose Contributions<sup>(10)</sup>**

Source	Dose mrem/yr
False teeth	0.07
LCD watch	0.06
Airport X-ray	0.002
Smoke Detector	0.008

<sup>(10)</sup>Source: National Council on Radiation Protection and Measurements